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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,980	12/07/2001	James H. Lee	H-204145	1793

7590 08/26/2003

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/004,980	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Raymond Alejandro	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-20 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

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## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group II (claims 16-20) in Paper No. 4 is acknowledged.

### *Priority*

2. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged.

### *Drawings*

3. The sheets of drawings, filed on 12/07/01 have been accepted.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugita et al 4820594.

This application is drawn to a fuel cell system wherein the inventive concept comprises the specific components. Other limitations include the catalytic combustor and the organic fluid.

As for claims 16-17 and 20:

Sugita et al disclose a fuel cell system wherein fuel is used directly as a heating medium for raising the temperature of the system (ABSTRACT). **Figure 1** below shows the fuel

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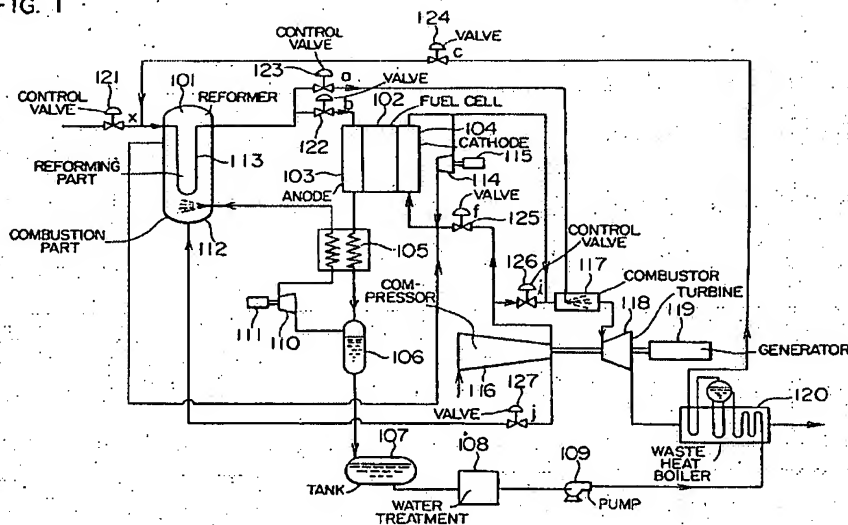
cell system comprising a pump 109 which is connected to the waste heat boiler 120 which transfer heat to the water to create steam wherein the heat waster boiler 120 is further connected to the inlet part of the reformer 101 (COL 3, lines 34-42). The fuel cell system comprises the fuel cell 102; the air compressor 116, the turbine 118, the heat boiler 120 (COL 2, lines 53-57).

It is also evident from **Figure 1** that the fuel cell is connected to an expander (turbine 118), thereby delivering the exhaust to the expander. The compressor 116, the turbine 118 and generator 119 are connected with the same power system which is further connected through a clutch with a drive assembly to deliver work (COL 3, lines 14-22). Figure 1 also depicts that the expander is connected to another fuel cell component to use the generated work.

**Figure 1** also illustrates that the expander (turbine 118) is in flow communication (connected) with fuel cell through the reformer 101 wherein the fuel cell anode outlet is connected to the heat exchanger 105 and the outlet of heat exchanger is connected to the drum 106 (COL 3, lines 1-11) where they cools the anode outlet exhaust (COL 5, lines 1-10). Thus, both the heat exchanger 105 and the drum 106 act as a condenser by recovering constituent of the anode gas exhaust. Thereafter, the separated water enters water tank 107, then brought to elevated pressure and sent to the waste heat boiler 102 by means of the feed water pump 109 (COL 5, lines 55-62).

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FIG. 1

As for claim 18:

It is disclosed that the reformer includes a fuel reforming part 113 and a combustion heating part 112 wherein the fuel reforming part is packed with reforming catalyst (COL 2, lines 59-63). It is disclosed that the reforming part is brought to elevated temperature by the steam and thus become ready for reforming (COL 6, lines 30-35/ COL 6, line 67 to col 7, line 11).

As for claim 19:

It is disclosed that the circulating fuel which is used as the cooling medium include methanol, LPG and gas oil (COL 3, lines 45-48).

Thus, the claims are anticipated.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (703) 306-3326. The examiner can normally be reached on Monday-Thursday (8:30 am - 7:00 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro  
Examiner  
Art Unit 1745

A handwritten signature in black ink, appearing to be 'RAM', is written over the printed name and title of the examiner.